

MINUTES

CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE (CTCDC) MEETING

Lincoln, January 15, 2009

The first CTCDC meeting of year 2009 was held in the City of Lincoln, on January 15, 2009. Chairman Hamid Bahadori opened the meeting at 9:15 a.m. with the introduction of Committee members and guests.

The following Voting Members, Alternates Members, and guests were in attendance:

| <u>ATTENDANCE</u> | <u>ORGANIZATION</u> | <u>TELEPHONE</u> |
|------------------------------|---|-------------------------|
| Members (Voting) | | |
| Hamid Bahadori Chairman | Auto Club of Southern California | (714) 885-2326 |
| John Fisher Vice Chairman | League of CA Cities City of Los Angeles | (213) 972-8424 |
| Farhad Mansourian | CA State Association of Counties Marin County | (415) 499-6570 |
| Wayne Henley | Caltrans | (916) 654-6246 |
| Ed von Borstel | League of CA Cities City of Modesto | (209) 577-5266 |
| Deborah Wong (Alternate) | California State Automobile Association | (415) 241-5847 |
| Jacob Babico | CA State Association of Counties San Bernardino County | (909) 387-8186 |
| Chief Steve Lerwill | CHP | (916) 657-7222 |
| <u>Alternate</u> | | |
| Jeff Knowles | League of CA Cities City of Vacaville | (707) 449-5349 |

| <u>ATTENDEES</u> | <u>ORGANIZATION</u> | <u>TELEPHONE/E-Mail</u> |
|---------------------|-----------------------|--|
| Jim Esparza | CPUC | jie@cpuc.ca.gov (916) 327-5833 |
| Dave Royer | Consultant | droyerpe@earthlink.net (661) 255-6556 |
| David A. Gamboa | Caltrans | dave.gamboa@dot.ca.gov |
| Mina Layba | City of Thousand Oaks | mlayba@toaks.org |
| Roberta McLaughlin | Caltrans | Roberta.Mclaughlin@dot.ca.gov |
| Don Howe | Caltrans | don.howe@dot.ca.gov |
| Donald Discher | Sunnyvale DPS | dodischer@ci.sunnyvale.ca.us |
| Jason Shykowski | City of Roseville | jshykowski@roseville.ca.us |
| Steve Seaton | City of Roseville | sseaton@roseville.ca.us |
| Jim Baross | CBAC, LAB, CBC & CABO | jimbaross@cox.net |
| Suzann Ikeuchi | CHP | Suikuchi@chp.ca.gov |
| Robert Copp | Caltrans | robert.copp@dot.ca.gov |
| Kevin Davis | CHP | kmdavis@chp.ca.gov |
| John Keller | CHP | jkeller@chp.ca.gov |
| Harold Garfield | Consultant-ITS | hdarf@pacbell.net |
| Danielle Stanislaus | MTC | dstanislaus@mtc.ca.gov |
| Ahmad Rastegarpour | Caltrans | ahmad.rastegarpour@dot.ca.gov |
| Radieh T Victor | MTC | rvictor@mtc.ca.gov |
| Walter Laabs | City of Santa Rosa | wlaabs@srcity.org |
| Dick Boyd | Consultant | dickboyd@aol.com |
| Habib Shamskhov | DKS Associate | its@dksassociates.com |
| Gordon Wang | Caltrans | gordon.wang@dot.ca.gov |
| Cyrus Minoofar | ACCMA | cminoofar@accma.ca.gov |
| Mario Gouveia | City of Gustine | mariogouvira@alcom.com |
| Julie Rose | Mattos News Paper | jrose@mattosnews.com |
| Rich Calderon | City of Gustine | rcalderon@gustinepolice.com |
| Leonard Holmquist | City of Gustine | |

Chairman Bahadori announced that the Agenda Item 09-10 on Speed Limit policy will not be discussed today. Caltrans has requested a special meeting on February 24, 2009 from 1 p.m. to 5 p.m. The meeting will be held in downtown Sacramento at 1416 9th Street (Auditorium, Water Resources Building), Sacramento, CA 95814. He also mentioned the Neighborhood Electric Vehicles (NEV) “workshop” which was held yesterday (February 14, 2009). The “workshop” was organized by the City of Lincoln and Caltrans to share the NEVs experience with other CA agencies, promoting the uses of NEVs statewide and developing standards for signs and markings for the implementation of NEVs.

Chairman Bahadori also thanked John Pedri, Public Works Director, City of Lincoln for hosting the CTCDC meeting in their facility.

John Pedri thanked the Committee for coming to their City and stated that on January 14, 2009, there was a “workshop” which was attended by the various organizations. John Pedri added their City has developed NEV planes, and there are approximately 1200 NEVs and Golf carts in the City of Lincoln. John Pedri further stated that there is no collision record involving NEVs except for one minor collision involving a Golf Cart. He added that other auto collisions have been down since the use of NEVs. He encouraged the CTCDC to develop statewide standards for the signing and pavement markings for the NEVs implementation.

Robert Copp, Chief, Division of Traffic Operation Headquarters, Caltrans, thanked the CTCDC for contributing their valuable time to develop standards for traffic control devices to keep uniformity in the State of California. He added that he was impressed with the amount of detail included in the agenda and in the minutes. He appreciated the Committee members as well as the participants for attending the CTCDC meetings and providing valuable input for the development of new standards for traffic control devices.

MINUTES

Adoption of the September 17 and 18, 2008 CTCDC meeting minutes. John Fisher proposed a minor amendment to paragraph 4, on page 21 of 58, saying to remove a sentence “This is not a traffic control device and the public could be educated about this law”, because he never said so. There was no objection to the amendment.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, to adopt the Minutes of the September 17 and 18, 2008, CTCDC meeting held in Pasadena, California. Motion carried 7-0.

Public Comments:

Chairman Bahadori asked for public comments on any item not appearing on the agenda.

Mina Layba, City of Thousand Oaks, stated that even though the Speed Limit item has been postponed for discussion on February 24, 2009, she would like to make comments during the public comment period. She thanked the Committee for trying to resolve all the issues raised in regards to the speed limit policy by the various organizations. She also thanked the Committee for recommending a “soft floor” during the September 2008 meeting. She stated that this item initialed due to the term “nearest” used in the CA MUTCD. During the October 2007 workshop and CTCDC meeting, the word “nearest” was replaced with “within” which is consistent with the Federal MUTCD language. She stated that at the beginning, their City had supported the hard floor. However, when they implemented the hard floor on their existing Engineering and Traffic Surveys (E&TS) data, almost 85% of local streets would require a 5 mph speed limit increase. She added that their City Engineer and law enforcement agency supports the soft floor, which provides flexibility to local agencies for setting up a safe speed limit on their roadways.

Jim Baross, Vice Chairman, California Bicycle Advisory Committee (CBAC), stated that he read the history of CTCDC and found out that AAA used to install signs on the roadways in California until the 1940's. He added that the California Bicycle Advisory Committee to Caltrans (CBAC) had requested that bicyclists have representation on the CTCDC, however, Caltrans suggested that any item related to bicycles on the CTCDC agenda would be discussed with CBAC before CTCDC makes a final recommendation. If this does not work, the CBAC request would be discussed with the CTCDC. He further stated that he attended the NEVs workshop yesterday and will provide the perspective of the CBAC. He commented that when motor vehicles were originally introduced, their speed was about 30 mph which is the same as NEVs, and not subject to special restrictions from using the same facility. He added that the bicycle organizations are doing their best retain the right to use the facilities with mixed traffic as safely as possible.

Agenda Items:

07-17 Proposal for C17A (CA) ROAD WORK Plaque and Amendment to CA MUTCD Section 6F.104

Chairman Bahadori asked Wayne Henley to introduce agenda item 07-17.

Wayne Henley stated that one of Caltrans goals is to provide safety for workers in work zones and at the same time provide safe passage for motorists. This item was placed on the agenda in 2007 and the Committee asked for some clarification, whether the proposal had any conflict with the California Vehicle Code (CVC). Wayne Henley asked Don Howe to address the proposal further.

Don Howe, Caltrans, stated that in the agenda packet a memorandum has been included from the Caltrans Legal Division, which clarifies that Caltrans has authority to reduce the speed in construction zones without conducting a E&TS and that the speed limit is enforceable. He added that the proposed language has been included in the agenda on pages 12, 13 and 14 of 58.

Chairman Bahadori asked whether the Committee members had any questions for Don Howe.

Jacob Babico asked about page 8 of 58 which had a sign with code G20-5aP, why it is not a R2-1 sign.

Don Howe responded that the sign code G20-5aP is a federal sign and represents the proposed plaque (work zone). Don Howe stated that in the support language on page 12 of 58 of the agenda it states that WORK ZONE plaque has a sign code G20-5aP.

Jacob Babico further asked that on page 13 of 58, under the guidance statement, it says; "the speed zone should be verified by E&TS."

Chairman Bahadori responded that it seems to be an incorrect guidance statement, because E&TS is not required in construction zones in establishing speed limits.

There were no more questions for Don Howe from the Committee members. Chairman Bahadori asked for public comments.

Dave Royer, Consultant, stated that the federal plaque G20-5aP should be used where a permanent speed limit is reduced in construction zones according to CVC 21367. He further stated that the use of the C17 sign is based on the CVC Section 22362 and has very specified language which states: "This section applies only when appropriate signs, indicating the limits of the restricted zone, and the speed limit applicable therein, are placed by such agency within 400 feet of each end of such zone." The sign shall be

removed or covered when workers are not present. Using the federal plaque on the permanent speed limit reduction signs will separate these two signs and their uses.

Kevin Davis, CHP, commented that the CHP uses Lidar/Radar to enforce the speed limit in construction zones. However, the proposed policy on page 13 of 58 under guidance states: "Contracted law enforcement should provide Construction Zone Enhanced Enforcement in the TTC zone; and, cite violators of the reduced speed limit under the Basic Speed Law (CVC 22500) without the use of radar enforcement or other electronic methods."

Chairman Bahadori commented that the proposed statement under guidance is not a correct statement. The CHP could use Lidar/Radar to enforce speed limits in construction zones, because the speed limit has been established based on a study.

Chad Dornsife, Highway Safety Practice, stated that the 10 mph reduction in construction zones is an arbitrary reduction. Most of the time, there are no construction activities and the speed limit reduction is still in effect. He suggested that the reduced speed limit sign should be covered when there are no construction activities.

There were no other public comments. Chairman Bahadori closed the public comments and opened discussion to Committee members.

Farhad Mansourian stated that there are a few questions needing clarification, such as when there is no E&TS conducted, then can the radar be used to enforce the speed limit or not, because of the speed trap law. Also, the law does not allow reducing the speed limit on the basis of roadside restrictions according to the CVC section 22358.5:

22358.5. It is the intent of the Legislature that physical conditions such as width, curvature, grade and surface conditions, or any other condition readily apparent to a driver, in the absence of other factors, would not require special downward speed zoning, as the basic rule of section 22350 is sufficient regulation as to such conditions.

Note for Readers Clarification: It was suggested to delete the last sentence of guidance, because E&TS is not required to lower speed limit in constructions zone. The speed limit in construction could be reduced based on the collective judgement of the traffic engineer, construction engineer and the enforcement agency as long as the reasons are documented. The studies made to identify these projects are considered sufficient to satisfy the intent of the E&TS requirement.

The signs to perform construction, maintenance, or repair of a highway, installed with the approval of the department or local authority that has jurisdiction on the roadway are enforceable under the CVC Section 21367, see below:

21367. (a) As provided in Section 125 of the Streets and Highways Code and in Section 21100 of this code, respectively, the duly authorized representative of the Department of Transportation or local authorities, with respect to highways under their respective jurisdictions, including, but not limited to, persons contracting to perform construction, maintenance, or repair of a highway, may, with the approval of the department or local authority, as the case may be, and while engaged in the performance of that work, restrict the use of, and regulate the movement of traffic through or around, the affected area whenever the traffic would endanger the safety of workers or the work would interfere with or endanger the movement of traffic through the area. Traffic may be regulated by warning signs, lights, appropriate control devices, or by a person or persons controlling and directing the flow of traffic. (b) It is unlawful to disobey the instructions of a person controlling and directing traffic pursuant to subdivision (a). (c) It is unlawful to fail to comply with the directions of warning

signs, lights, or other control devices provided for the regulation of traffic pursuant to subdivision (a).

For Readers Clarification: The Department of Transportation has adopted a policy which allows to reduce speed limits in construction zones, if justified, without doing the E&TS. The policy has been posted on the following website:

<http://www.dot.ca.gov/hq/traffops/signtech/signdel/policy/12-22-92.pdf>

Steve Lerwill stated that in construction zones, reduced speed limit has been enforced by using radar and the speed limit can be reduced in construction zones without doing the E&TS.

John Fisher commented that the Committee needs to know which CVC Section allows reducing the speed limit in construction zones without doing the E&TS and then allows enforcing with radar. Before the Committee act on this item, it is necessary to find the Sections of the CVC which permits this option.

Farhad Mansourian stated that if the Committee recommends for the adoption as proposed, then law enforcement would not be able to use radar for speed limit enforcement.

Chairman Bahadori suggested that Caltrans address the issues raised by the Committee members and bring it back to the Committee for consideration.

Motion: Moved by Farhad Mansourian, seconded by Jacob Babico, continue the item and bring back the following clarification:

Can law enforcement agencies use radar to enforce the speed limit in construction zones established without an E&TS?

Motion carried 8-0.

Action: Caltrans will address the Committee's concern and place this item on the CTCDC agenda for the next meeting.

08-8 Bicycle and Motorcycle Detection at New or Upgraded Signalized Intersections (Required due to AB 1581)

Chairman Bahadori asked Wayne Henley to discuss agenda item Bicycle and Motorcycle detection system.

Wayne Henley stated that a Subcommittee was formed to develop guidelines to fulfill the requirements of AB1581. The Subcommittee was ready to made recommendations in this meeting, however, they have received comments from various individuals in the last few days and the Subcommittee would like to defer this item for the next CTCDC meeting so that the comments could be reviewed and addressed properly. He invited Ahmad Rastegarpour, Chairman of the Subcommittee, and asked him to provide further update on this item.

Ahmad Rastegarpour stated that the Subcommittee was ready to ask the CTCDC for the recommendations on the proposed policy which is included in the agenda packet, pages 15 through 21. However, there were comments raised by some local agencies in the last 2-3 days and the Subcommittee believes that those comments must be addressed to ensure that the proposed policy is acceptable to all local agencies and stakeholders. Therefore, the Subcommittee requests to defer the item until the next meeting.

Ahmad Rastegarpour thanked the Subcommittee members for contributing their time in developing the policy for the bicycle/motorcycle detection system. A special thanks to Bob Shanteau, who has contributed a large quantity of time in this process. Ahmad Rastegarpour reminded the CTCDC that there was a study conducted on the signal timing for bicyclists, however, during the last CTCDC meeting, the Committee requested a more detailed study including some Southern CA cities to get a good mixed sample to determine the bicycle signal timing. Ahmad Rastegarpour stated that Caltrans has requested additional funds to collect more data on the bicycle signal timing study. If the final study is not completed before the next meeting, then the Subcommittee will recommend using 8 seconds for the bicycle signal timing as a default which is also recommended by the CBAC. The main focus of the Subcommittee is that the final language is acceptable to all local agencies and stakeholders.

Chairman Bahadori asked Ahmad Rastegarpour whether your group has received the comments sent by LA County, Hamed Benover of UC Berkley, City of Garden Grove and City of Roseville.

Ahmad Rastegarpour responded yes.

Chairman Bahadori asked Committee members whether or not they would like Ahmad to go over the proposed policy and the comments received from individuals.

John Fisher asked in light of the comments received in the last few days, if the Committee is going to discuss this item or if the Committee was planning no action.

Chairman Bahadori responded that there is an urgency to finalize this policy, because AB1581 states: the law is applicable only when the standards and signal timing is developed by Caltrans with the consultation of local agencies. However, the Subcommittee asked to postpone the item until the next meeting so that they could discuss the comments and develop a policy acceptable to all local agencies.

Farhad Mansourian suggested to at least going over the comments received and on the proposed language briefly to provide comments to Ahmad Rastegarpour so that they have input from the Committee.

Chairman Bahadori asked Ahmad Bahadori to discuss comments received from different agencies.

Committee members and Ahmad Rastegarpour discussed all the comments received briefly. Ahmad Rastegarpour stated that the Subcommittee would brainstorm to address all the comments and develop consensus for the proposed policy. He briefly commented on the comments received in the last few days. He stated the proposed detection system is an independent (technology neutral) technology. The proposal does allow the use of detection zone less than 6'X6' under the option statement. The proposal does not eliminate the use of signal push button. He further informed the Committee that there was some data collected for the bicycle signal timing. However, Caltrans planned to collect more data before making a final recommendation on the bicycle signal timing. Meanwhile 8 seconds as a default bicycle signal timing would be used.

Jacob Babico stated that he agreed with the comments that the detection system should be able to detect all the vehicles including bicycle, motorcycle and autos. He also agreed to delete the push button as shown in Figure 4D-111(CA), because it could be used by bicyclists for the through movement, however, it could not be used for the left turn movement. Secondly, motorcyclists can not use the push button.

John Fisher stated that as he reads it, the proposed language included in the agenda is technology-neutral. However, Figure 4D.111(CA) is an old figure which shows traditional Caltrans design for detection at a signalized intersection. Figure 4D-111(CA) shows advance detection, limit line detection and detection between the advance and limit line detections. In his opinion, that confuses the issue. The text in the

proposed language does not make any reference to advance detection. The text says; “where advance detection only is used, the signal shall be put on permanent recall.” The text also refers to limit line detection, there is no reference to multiple loops in the middle. He suggested deleting the middle loop detectors which would make the diagram more clean and clear. Basically, the Subcommittee has developed the language technology as neutral, by clearing up the figure, it would resolve the issue raised by LA County.

Wayne Henley agreed with John Fisher’s comments.

Farhad Mansourian stated that he would like to see the text read more clearly, saying that it is a technology neutral system. Secondly, he asked about the comment raised by LA County in regards to the bicycle signal timing which is required by AB 1581, before adopting policy in CA.

Ahmad Rastegarpour responded that Caltrans has requested additional funds to collect more data in determining the bicycle signal timing.

Farhad Mansourian asked for the Subcommittee to bring the proposal back for the next meeting, then at that time, the bicycle signal timing issue would be resolved.

Ahmad Rastegarpour responded that if the study is not completed or the study is still in the middle, then the Subcommittee will recommend using an 8-second minimum green bicycle signal timing as default and it is also recommended by the CBAC.

Steve Lerwill commented that the law requires that the bicyclist must stay to the right of the roadway as much as practical. If a bicyclist is using the number one or number two lanes for the through movement, in his opinion, it is an illegal movement. If a bicyclist is making a left turn, he can move into the left lane, however, when a bicyclist is going straight through, the law is very clear and AB 1581 does not talk about the existing law.

Ahmad Rastegarpour responded that there is an exception, when a bicyclist is on the same speed as to the vehicle, then a bicyclist could take over the whole lane. He further added that when there is a right turn lane, in that condition, a bicyclist could take the next lane for through movement.

Steve Lerwill did not agree with Ahmad Rastegarpour’s response and stated that the law is very clear in conditions when bicyclists are on the roadways with autos.

Chairman Bahadori shared the comments raised by Bob Shanteau, who is also a Subcommittee member. Bob Shanteau mentioned that the private roads with public intersection and bike paths should be covered in the proposed policy.

There was further discussion on the comments raised by LA County and Hamed Benouar in regards to the bicycle logo, bicycle push button, and the 6’x6’ detection area.

Ahmad Rastegarpour responded that the proposed language does not prohibit the use of a bicycle logo, and it does not prohibit the use of push Button. The proposed language under the option statement clearly indicates that push button could be used. He further stated that the proposed language under option allows the use of a narrower detection zone than the 6’X6’ detection zone.

John Fisher commented that the bicycle push button is allowed, however, the figure included in the agenda packet shows a crossout of the bicycle push button. Instead of it being crossed out, it could say “optional” for clarification to the reader. He further commented on the detection system for private

driveways and bike paths. He stated that the language indicates the push button may be used for private driveways and bike paths, meaning the agency has the option not to use any detection at all. He stated that if there is a private leg with the public intersection, the requirement for detection system needs to be a "shall" statement.

Chairman Bahadori stated that the comments made by the Committee members today and the comments received from local agencies should be addressed before the Subcommittee brings this item back to the CTCDC.

Chairman Bahadori opened the item for public comments.

Jim Baross, Vice Chairman of the CBAC, stated that Bob Shanteau represents the Subcommittee on behalf of the CBAC. The CBAC is involved very much in developing the final policy. He stated that there is no dispute with Figure 4D-111(CA), no dispute when bicyclists turn left. However, there is a dispute when bicyclists go straight through the intersection. He stated that the CBAC is against the use of a push button, they want to deploy detection for all lanes. He added that a bicycle push button would only be appropriate when there is no right turn on red allowed, and there are very few locations with that type of restriction. If push button is used to activate a signal and a right turn is allowed on red, then bicyclists after pushing the push button would have to jump back into the through lane, which is not practical nor safe. He also commented about LA County's comments to eliminate reference to "bicycle rider" and "limit line detection zone" and suggested replacing it with "bicyclist/motorcyclist" and "detection zone". He added that the purpose of these references recommended by the Subcommittee was to provide guidance to practitioners that the detection system should be able to detect a particular size of bicycle and person riding the bicycle. He also commented on the pavement logo and supported the use of a pavement logo, however, he stated that some agencies would not use pavement logos due to maintenance reasons. He also took issue with Steve Lerwil's contention that bicyclists should not legally be using the through lanes at an intersection. Jim claimed that CVC 21202 states that bicyclists are not required to stay as far to the right as practicable or next to the curb at a place where a right turn is allowed.

Harold Garfield, Consultant ITS, stated that he would recommends keeping the optional use of push button, because sometimes the detectors do not detect the bicyclist and in that situation a push button could be used to activate a signal.

Jason Shykowski, Civil Engineer, City of Roseville, stated that they were late in the picture for providing comments, however the City takes biking very seriously. He added that the City of Roseville would like to see an option to be added to allow an agency to keep its current loops, if they are capable of detecting bicycles. The city uses Type A detectors and they work fine, and they also use pavement markings. He commented on the proposed language and stated that the proposed language does not address the dedicated bike lane. The City of Roseville allows dedicated bike lane to increase the green timing if there are bicycles. Basically, City of Roseville wants the language to allow the current system to be used if they detect bicyclists and address the dedicated bike lane.

There were no more comments from the public. Chairman opened discussion amongst Committee members.

John Fisher stated that the Subcommittee did a fine job, however the language could be made more clearer. Some of the language is not consistent with that prescribed for Guidance statements. For example, the proposed Guidance language states; "The Limit Line Detection Zone is not required for phases that are on permanent recall or fixed time operation". To make it clearer to the practitioner, the statement should be a Guidance statement. He stated that the standard statement could be modified to make it clearer as proposed by Bob Shanteau who proposed the following language which he supports:

Standard:

All new limit line detector installations and modifications to the existing limit line detection on a public/private/driveway intersecting a public intersection (see Section 1A.13 for definitions) shall provide either a Limit Line Detection Zone or be placed on permanent recall or fixed time operation in Refer to CVC 21450.5.

Chairman Bahadori recommended to the Subcommittee to consider all the comments made by the Committee members, comments submitted by the other local agencies, the minimum signal timing for the bicyclists, then bring it back to the Committee for the next meeting.

08-17 Proposal to adopt California Alternative Fuel signs as optional signs (formally known as “BIODIESEL” plaque and the “Ethanol 85 (E85)” signs)

Chairman Bahadori asked Wayne Henley to address the agenda item on Alternative Fuel Signs.

Wayne Henley stated that there is a demand for alternative fuels signs and a proposal in front of the Committee to make a recommendation for adoption of the alternative fuels signs. He asked Don Howe to discuss the proposal with the Committee members.

Don Howe shared the proposal as shown in the agenda pages 22 through 24. He also discussed the Federal MUTCD alternative signs versus CA MUTCD practice. He stated that the primary fuel signs are gasoline, gasoline and diesel (D9-7 and D9-11). He suggested eliminating the Federal MUTCD CNG D9-11a sign, because California has adopted the CNG sign in a diamond shaped logo. He discussed different examples for the alternative fuel signs shown on page 24, and the proposed signs as shown on page 25. He asked the Committee to make recommendations for the adoption of the proposed policy for the alternative fuel signs. The proposal is shown below:

PROPOSAL:

Amended (in red) Section 2D.45 General Services Signs (D9 Series)

Fuel (Gasoline, and Diesel and Alternative Fuels) Signs (D9-7, D9-11, D9-11a(CA), G66-11(CA), G66-11A(CA), G66-12A(CA), G66-13A(CA), G66-13B(CA), G66-22A(CA), G66-22B(CA), G81-52(CA), G66-13C (CA), G66-13D(CA), G66-13E(CA), G66-13F(CA)), and G66-13G(CA))

Standard:

1. The maximum distance to a service station shall be 0.8 km (0.5 mi) and have reasonably direct access from and return to the highway.

Option:

2. Service may be signed to in bypassed communities, if the distance to the service is less than the distance to the next service on the through route.

Standard:

3. Fuel, oil, compressed air, air gauge, radiator water, drinking water, telephone and restrooms shall be available during all service hours.

Guidance:

4. The station should be open at least 12 hours a day.

Standard:

5. Where gasoline is available, the Gas (D9-7) symbol sign shall be used.
6. Where gasoline and diesel is available, the Diesel Fuel (D9-11) symbol sign (with a superimposed “D”) shall be used.

Option:

7. The DIESEL (G66-12A(CA)) plaque may be used in addition to other appropriate service signs. Where neat (B100) BIODIESEL (BD) fuel is available, the BIODIESEL Fuel (G66-13A(CA)) symbol sign and BIODIESEL (G66-13B(CA)) supplemental plaque may be used in addition to the other appropriate signs.
8. Where liquefied petroleum gas is available; a LP GAS (G81-52(CA)) plaque may be used below either D9-7 or D9-11 sign.
9. Where methanol fuel is available, the Methanol Fuel (G66-11(CA)) symbol sign and METHANOL (G66-11A(CA)) plaque may be used in addition to other appropriate service signs.
10. The Compressed Natural Gas (G66-22A(CA)) sign may be used for Compressed Natural Gas Refueling Stations within 4.8 km (3 mi) of a State highway and be available to the public at least 16 hours a day.
11. The Liquefied Natural Gas (G66-22B(CA)) sign may be used for Liquefied Natural Gas Refueling Stations within 4.8 km (3 mi) of a State highway and be available to the public at least 16 hours a day.
12. Where Ethanol-E85 fuel is available, the Ethanol-E85 Fuel (G66-13C(CA)) symbol sign and ETHANOL (G66-13D(CA)) supplemental plaque may be used in addition to the other appropriate signs.
13. Where HYDROGEN (H) fuel is available, the HYDROGEN Fuel (G66-13E(CA)) symbol sign and HYDROGEN (G66-13F(CA)) supplemental plaque may be used in addition to the other appropriate signs.
14. Where only alternative fuels are available and gasoline and diesel fuels are not, the Alternative-ALT Fuels (D9-11a (CA)) symbol sign (with superimposed "ALT") may be used with an Alternative Fuels (G66-13G(CA)) supplemental plaque mounted below.
15. Beneath the standard fuel symbol sign, per #5 or #6 above, or, the Alternative-ALT Fuels (D9-11a (CA)) symbol sign, the Alternative Fuels (G66-13G(CA)) supplemental plaque may list alternative fuels available with one fuel name or abbreviation per line. This supplemental plaque height may vary from 2 to 6 lines of text; and, may intentionally leave space(s) for an alternate fuel legend overlay(s) to be added at a future time.

Standard:

11. Follow-up signing, if necessary, shall be placed by local agencies before signs are placed on the State highway.
- 16.

Support:

The Department of Transportation may develop signs for future requests for alternative fuel signs, then share the signs with the California Traffic Control Devices Committee (CTCDC) in a subsequent meeting for informational purposes.

Existing alternative fuel signs



G66-11 (CA)



G66-11A (CA)



G66-12A (CA)



G66-22A (CA)



G66-22B (CA)



G66-13A (CA) symbol sign
with G66-13B (CA) supplemental plaque



G66-13C (CA) symbol sign
with G66-13D (CA) supplemental plaque



G66-13E (CA) symbol sign
with G66-13F (CA) supplemental plaque



D9-11a (CA) symbol sign
with G66-13G (CA) supplemental plaque

Chairman Bahadori asked the Committee members if they had questions for Don Howe on the proposal.

John Fisher asked where the CNG sign G66-22A would be used.

Don Howe responded that the CNG diamond shape would be a separate plaque and it would be used with a standard Gasoline or with Gasoline/Diesel sign.

John Fisher asked if California is keeping the CNG diamond shape sign because of current practice.

Don responded yes.

There were no other comments from the Committee members. Chairman Bahadori asked for comments from the public. There were no comments from the public.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, recommended adopting the policy for the alternative fuel signs as shown above.

Motion carried 8-0.

Farhad Mansourian commented on the “support” statement included in the proposed policy shown on page 23 and stated that would allow Caltrans to create alternative fuel signs in the future without bringing it back to the Committee.

Action: Caltrans will adopt the proposed policy and inform the Committee when it is posted on the CA MUTCD website.

09-1 Proposal to amend policies for Unincorporated Community, City Limit Signs and County Line Signs (Formally listed as Item No. 08-9)

Chairman Bahadori asked Wayne Henley to discuss agenda item Community, City Limit Signs and County signs.

Wayne Henley stated that this item was placed on the agenda because of an outside inquiry. During the last meeting, the Committee suggested Caltrans to verify that this proposal was not in conflict with the Streets & Highways (S&H) Code 101.1. Upon perusal, it is Caltrans opinion that as long as the requirement (Standard – “shall”) for installing the Unincorporated Community and City Limit signs is retained (as a Standard – “shall”), the actual physical location of where the signs are placed can be a Guidance (“should”) without conflicting with the S&H Code 101.1.

Chairman Bahadori asked comments from the Committee members and from the public. There were none.

Motion: Moved by Jacob Babico, seconded by John Fisher, recommended for the adoption of the proposal as shown below:

PROPOSAL:

Section 2D.48 General Information Signs (I Series)

Unincorporated Community and City Limit (CA Code G9-2 and G9-5) Signs
Standard:

The Unincorporated Community (G9-2(CA)) and City Limit (G9-5(CA)) signs shall be used to mark the limits of cities and to identify unincorporated towns. Refer to S&H Section 101.1. ~~The G9-5 (CA Code) sign shall be placed on the right, at the outer city limits of incorporated cities, facing traffic entering the named city. The G9-2(CA) sign shall be used similarly for unincorporated towns.~~

Guidance:

The G9-2(CA) signs should be placed on the right, as close as practical to the outer town limits of unincorporated towns, facing traffic entering the named town.

The G9-5(CA) sign should be placed on the right, as close as practical to the outer city limits of incorporated cities, facing traffic entering the named city.

Option:

The population may be obtained from:

- A. Federal census
- B. California Dept. of Finance
- C. County Board of Supervisors
- D. County Planning Commission

The elevation shown may be that of the courthouse, post office, railroad station, or benchmark in the central district of the city.

Standard:

See Section 101.1 of the Streets and Highways Code, which makes these changes mandatory, and Section 101.2 and 101.4, which provides that the Department of Transportation, under certain conditions, shall replace any city limit signs.

Guidance:

If a city or community desires to install a distinctive type city limits or "Welcome" sign on conventional highways at its city limits in place of the standard G9-5(CA) sign, the following criteria should be followed:

Standard:

1. **The signs shall be installed by local authorities at no expense to the State, and an approved encroachment permit will be obtained prior to installation. They shall be maintained by the permittee to the satisfaction of the permitter.**
2. **Such signs shall be installed in accordance with current Department practices.**
3. **Signs shall be of reasonable size and proportional to other guide signs in the area.**
4. **Signs shall be positioned so they do not obstruct the view of official traffic control devices.**
5. **No moving or flashing displays or advertising of any kind will be permitted.**
6. **No sign shall encroach over the highway.**

Option:

7. Political jurisdiction logos may be displayed on the city limit signs, but the predominant characteristics of the sign will be white legend on a green rectangular shaped background. Distinctive type city limit signs not conforming to the above may remain in place until normal replacement is required.

County Line (G10(CA)) Sign

Guidance:

The County Line (G10(CA)) sign should be used at the point where the county boundary line crosses the State highway. ~~The G10(CA) sign should be placed on the right facing traffic entering the named county.~~

The G10(CA) sign should be placed on the right, as close as practical to the outer limits of the county, facing traffic entering the named county.

Motion carried 8-0.

Action: Caltrans will adopt the proposed policy and inform the Committee when it is posted on the CA MUTCD website.

09-2 Amendment to Section 2A.22 Maintenance of the CA MUTCD

Chairman Bahadori asked Wayne Henley to address the agenda item on CA MUTCD Section 2A.22 Maintenance.

Wayne Henley stated that the CA MUTCD **Section 2A.22 Maintenance** talks about the proper positioning, maintenance and inspection of the signs for visibility. It also says that the employees of highway, law enforcement, and other public agencies whose duties require that they travel on the roadways should be encouraged to report any damaged, deteriorated, or obscured signs at the first opportunity. However, the policy does not cover “missing” signs. The addition of “missing” is an appropriate amendment. The following is the proposal:

PROPOSAL:

Section 2A.22 Maintenance (proposed to add word “missing”)

Guidance:

All traffic signs should be kept properly positioned, clean, and legible, and should have adequate retroreflectivity. Damaged or deteriorated signs should be replaced.

To assure adequate maintenance, a schedule for inspecting (both day and night), cleaning, and replacing signs should be established. Employees of highway, law enforcement, and other public agencies whose duties require that they travel on the roadways should be encouraged to report any damaged, deteriorated, **missing** or obscured signs at the first opportunity.

Steps should be taken to see that weeds, trees, shrubbery, and construction, maintenance, and utility materials and equipment do not obscure the face of any sign.

A regular schedule of replacement of lighting elements for illuminated signs should be maintained.

Chairman Bahadori asked comments from the public and the Committee members. There were none.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, recommended adoption of the proposal.

Motion carried 8-0.

Action: Caltrans will amend the section as suggested and post it on the CA MUTCD website.

09-3 Amendment to Section 6F.63 Type I, II, or III Barricades

Chairman Bahadori asked Wayne Henley to discuss agenda item 09-3, Amendment to CA MUTCD Section 6F.6 Barricades.

Wayne Henley stated that Caltrans requests that the Committee recommend retaining the National MUTCD requirement (“shall”) for orientation of barricade stripes in the direction road users are to pass instead of the current California MUTCD amendment which makes it a recommendation (“should”). FHWA has recently made Caltrans aware that although the May 20, 2004 California Supplement policies were “grandfathered”, any subsequent changes to policy be in “substantial conformance” with the National MUTCD. FHWA California Division has determined that Caltrans Traffic Operations Policy Directive (TOPD) 05-06 issued on 3/7/05 which amended the National MUTCD Section 6F.63 standard

(“shall”) to a guidance (“should”) statement is an unacceptable modification. Wayne Henley stated that following is the amendment:

PROPOSAL:

Section 6F.63 Type I, II, or III Barricades

CURRENT TEXT:

Standard:

Stripes on barricade rails shall be alternating orange and white retroreflective stripes sloping downward at an angle of 45 degrees ~~in the direction road users are to pass~~. Except as noted in the Option, the stripes shall be 150 mm (6 in) wide.

Guidance:

Stripes on barricade rails should slope downward at an angle of 45 degrees in the direction road users are to pass.

PROPOSED TEXT:

Standard:

Stripes on barricade rails shall be alternating orange and white retroreflective stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Except as noted in the Option, the stripes shall be 150 mm (6 in) wide.

Chairman Bahadori asked for public comments.

David Royer, consultant, stated that he recommends a minor change to the proposed policy. He added that under the standard statement he will suggest using “when used as a channelizing device” at the beginning of the standard statement. He also suggested using a guidance statement as follows:

When barricades used as road closer devices, the strips should be downward direction.

There were no other comments. Chairman Bahadori closed the public comments and opened discussion amongst Committee members.

Farhad Mansourian stated that the way David Royer suggested, agencies have to keep two types of barricades, and that will be a problem keeping track of their use.

Jacob Babico stated that he does not see any problem with the proposed language.

Wayne Henley suggested the Committee to recommend the proposed changes to make the CA MUTCD in compliance with the Federal MUTCD.

There were no other comments.

Motion: Moved by Jacob Babico, seconded by Steve Lerwill, recommended adoption of the proposed language.

Motion carried 7-0 (Ed von Borstel was away during the voting)

Action: Caltrans will adopt the proposed language and post it on the CA MUTCD website.

09-4 Amendment to Sections 8D.05 and 10D.04 of the CA MUTCD

Chairman Bahadori asked Wayne Henley to address the agenda item for the amendment of CA MUTCD Sections 8D.05 and 10D.04.

Wayne Henley stated that the proposal is to make the CA MUTCD in compliance with the Federal MUTCD. He invited Jim Esparza, California Public Utility Commission (CPUC), to discuss this proposal with the Committee.

Jim Esparza, CPUC, stated that the CPUC requests the Committee to recommend the adoption of the amended Sections 8D.05 and 10D.04 of the CA MUTCD. The FHWA recently brought this to their attention that the language in Parts 8 and 10 of the September 2006 CA MUTCD which FHWA believes may not be in substantial compliance with the National MUTCD. In the sections discussing Four-Quadrant Gate Systems, it appears that the strikeouts in the CA MUTCD may reduce the requirements imposed by the National MUTCD. The CPUC proposed that the language of concern be restored in the CA MUTCD, with amendments to address the FHWA concerns. He also talked about the CPUC General Order 75-D Section 6.6(c) which includes the following requirement:

“A vehicle presence detection system shall be installed whenever exit gates are used. The system shall be designed such that if a vehicle is detected between the entrance and exit gates, the exit gate shall remain upright until the vehicle clears the exit gate.”

Chairman Bahadori asked the Committee members whether or not they have questions for Jim Esparza. There were none, he opened the item for public comments.

Jim Baross, Vice Chairman CBAC, stated that the vehicle means bicycle detection also be provided, or that the bicycle can go around.

Jim Esparza explained that the vehicle detection system is for vehicles that cannot clear the crossing if the exit gate is in the horizontal position or is descending to the horizontal position. The vehicle detection system at highway-rail crossings is designed to detect vehicles (cars, trucks, vans, etc.) that remain on the tracks upon activation of the automatic warning device system. He stated that an exit gate descends after a delay from the entrance gate. The delay time is provided to allow additional time for vehicles including bicyclists to clear the crossing. However, if a vehicle remains on the track, the detection system senses by the presence of the vehicle, and the controller reactivates the exit gate to the "UP" position allowing a clear path for vehicles to proceed out of the highway-rail crossing. He further stated that to his knowledge, bicycles have not been observed in the track area at a highway-rail crossing after the exit gates descend. Also, bicycles, like pedestrians, are able to go around the exit gate warning device and safely clear the crossing without the need to raise the exit gate. Bicyclists may also stop, dismount from the bicycle and walk around the exit gate mechanism and clear the crossing, just like pedestrians.

There were no other public comments. Chairman Bahadori opened discussion amongst Committee members.

John fisher stated that since AB 1581 requires that detectors be redesigned to accommodate bicycles and motorcycles at signalized intersections, that the detection used for vehicles at railroad exit gates would serve bicyclists, as well

Chairman Bahadori stated that he is not sure if AB1581 goes that far. This is a legal matter to discuss.

Ahmad Rastegarpour stated that he does not believe AB1581 requires detection of bicycles within the gates of a railroad track.

There were no other comments.

Motion: Moved by Farhad Mansourian, seconded by Deborah Wong, recommended adoption of the revised language as shown below:

Section 8D.05 Four-Quadrant Gate Systems

~~Except as noted in the Option below, the exit gate arm mechanism shall be designed to fail-safe in the up position.~~

The exit gate arm mechanism shall be designed to fail-safe in the up position. Refer to CPUC General Order 75, as amended.

Timed Exit Gate Operating Mode shall not be used. Only Dynamic Exit Gate Operating Mode shall be used. A Vehicle presence detection devices system shall be installed to control exit gate operation based on vehicle presence within the minimum track clearance distance. Refer to CPUC General Order 75, as amended.

At locations where gate arms are offset a sufficient distance for vehicles to drive between the entrance and exit gate arms, median islands shall be installed in accordance with the needs established by an engineering study.

Guidance:

The gate arm should ascend to its upright position in not more than 12 seconds.

Four-Quadrant Gate systems should only be used in locations with constant-warning-time train detection.

~~The operating mode of the exit gates should be determined based upon an engineering study, with input from the affected railroad company.~~

If the Timed Exit Gate Operating Mode is used, the engineering study, with input from the affected railroad company, should also determine the Exit Gate Clearance Time (see Section 8A.01).

~~If the Dynamic Exit Gate Operating Mode is used, vehicle intrusion detection devices should be installed to control exit gate operation based on vehicle presence within the minimum track clearance distance.~~

~~Regardless of which exit gate operating mode is used, The Exit Gate Clearance Time should be considered when determining additional time requirements for the Minimum Warning Time.~~ The Exit Gate Clearance Time should be considered when determining additional time requirements for the Minimum Warning Time.

~~If a Four Quadrant Gate system is used at a location that is adjacent to an intersection that could cause vehicles to queue within the minimum track clearance distance, the Dynamic Exit Gate Operating Mode should be used unless an engineering study indicates otherwise.~~

If a Four-Quadrant Gate system is interconnected with a highway traffic signal, backup or standby power should be considered for the highway traffic signal. Also, circuitry should be installed to prevent the highway traffic signal from leaving the track clearance green interval until all of the gates are lowered.

At locations where sufficient space is available, exit gates should be set back from the track a distance that provides a safety zone long enough to accommodate at least one design vehicle between the exit gate and the nearest rail.

Four-Quadrant Gate systems should include remote health (status) monitoring capable of automatically notifying railroad signal maintenance personnel when anomalies have occurred within the system.

Option:

~~Exit gate arms may fail in the down position if the highway rail grade crossing is equipped with remote health (status) monitoring.~~ **Refer to CPUC General Order 75, as amended.**

Four-Quadrant Gate installations may include median islands between opposing lanes on an approach to a highway-rail grade crossing.

Guidance:

Where sufficient space is available, median islands should be at least 18 m (60 ft) in length.

The same language will be added to the Section 10D.04 of the CA MUTCD.

Motion carried 8-0.

Action: Caltrans will post the revised policy on the CA MUTCD website.

09-5 Amendment to CA MUTCD Sections 2B.03 Size of Regulatory Signs and 2C.04 Size of Warning Signs

Chairman Bahadori asked Wayne Henley to address the agenda item for CA MUTCD Section 2B.03 Size of Regulatory Signs, and Section 2C.04 Size of Warning Signs.

Wayne stated that this item is also placed on the agenda because these sections of the CA MUTCD are not in compliance with the Federal MUTCD. He asked Don Howe to share the proposal with Committee members.

Don Howe stated that the reason California adopted the “guidance” (should) in lieu of the “standard” (shall) was inconsistent between the Federal MUTCD and the Standard Highway Signs Book. Matt Schmitz has pointed out this discrepancy. Even though the FHWA team has acknowledged that the discrepancy exists in the two federal documents and they are addressing those discrepancies. The deviation from “standard” to “guidance” is not acceptable to FHWA. Don Howe asked Matt Schmitz if he would like to add FHWA perspective.

Matt Schmitz, FHWA, stated that the FHWA MUTCD team is addressing the discrepancy between the Federal MUTCD and the Standard Highway Signs Book. However, he can not give a specific date when it would be accomplished. He stated that the proposed revision to the Federal MUTCD is anticipated to be released by October 2009 and he believes that these two documents issues will be addressed at that time. Other states are also raising the same concerns. He further stated that California is really making a difference with the Federal manual with proactive participation and especially Johnny Bhullar’s involvement is making a difference at the Federal level. To issue compliance for the CA MUTCD, there are a few items needed to be addressed, and this is one of them.

Chairman Bahadori asked for comments from the Committee members.

Jacob Babico commented that if the sign specifications and the Table mentioned in the proposed language have no discrepancy, then he is fine to use minimum standards or oversized standards based on the requirement. Secondly, there is a discrepancy in school assembly signs, especially with the plaques. If the Committee makes recommendation to adopt “shall” this will create a problem because of the discrepancy.

Don Howe stated that he would get back on this, because he does not have information about the discrepancy mentioned by Jacob Babico.

Chairman Bahadori asked for public comments.

Jeff Knowles, alternate CTCDC member, stated that he had the same question as was raised by Jacob Babico. Their city is updating school signs and there is a discrepancy, and if the “shall” is used as proposed, then there would be a legal problem.

Chairman Bahadori stated that he has the same concern as raised by Jeff Knowles and Jacob Babico. There is a discrepancy in the signs and the use of “shall” is a strong statement.

John Fisher stated that he supports the consistency between the CA MUTCD and Federal MUTCD. He further added he is pleased to see Caltrans is also working to achieve that goal. He suggested that if an agency finds a discrepancy that it should be brought to the Committee’s attention for correction. He stated that he would like to move a **Motion** as follows:

Adopt the recommendation as proposed with the understanding that any discrepancy with plaque sizes to be brought to the Committee’s attention for correction.

Ed von Borstel **seconded** the Motion.

Jacob Babico stated that the City of Santa Ana brought the school signs discrepancy to the Committee’s attention and the Committee has recommended Caltrans to make the correction, however, it has not been accomplished yet.

Caltrans staff told the Chairman that the item is a pending Caltrans action. He further added that Caltrans plans to address the majority of the pending items listed on Page 5 of the agenda under “Pending Items for Caltrans Action” during the revision of the CA MUTCD according to Revision 2 of Federal MUTCD. This revision will start very soon and it will be placed on the CTCDC agenda for the next meeting.

Farhad Mansourian commented on John Fisher’s motion and suggested that the motion should say with the adoption of proposed language, there is no conflict with the sign standards, and if there is a conflict bring it back to the Committee for corrections. He suggested John Fisher to think about his suggestion.

Chairman Bahadori stated that there is a link between the pending item 07-1 to update school signs and the proposed language. The pending item 07-1 must be addressed before the adoption of the proposed policy change under item 09-5.

John Fisher stated that after hearing Farhad’s comments, it will be more prudent to take action only when all the issues are addressed such as the school assembly signs. He withdrew his **motion** and proposed a new motion as follows:

Motion: Moved by John Fisher, recommended Caltrans to bring back the item to the Committee during the next meeting to ensure that any discrepancies have been addressed.

Farhad Mansourian **seconded** the motion.

Motion carried 7-1 (Wayne Henley abstained).

Action: Caltrans will bring it back to the Committee during the next meeting and address the Committee’s concerns.

09-6 Amendment to CA MUTCD Section 2D.45 General Service Signs (D9 Series)

Chairman Bahadori asked Wayne Henley to address the agenda item for Section 2D.45 General Services Signs of the CA MUTCD.

Wayne Henley stated that Caltrans Truck Services Branch has proposed to ensure that before the STAA routes are signed from the State facility, they would like to get in writing that the local facilities meet all the geometric criteria for a STAA truck route. The reason is that sometimes the local facility does not meet the requirements and the facility is signed from the State Route. He asked Don Howe to discuss the proposal with the Committee.

Don stated that a slight revised format has been handed out to the Committee members with the same language as shown in the agenda, only that item 2 has broken down in subheadings, a, b and c as shown below:

2. On Local Highways:

Signing of egress from a State Terminal Access route to a local Terminal Access route shall be done only if: ~~requested in writing by the local jurisdiction~~

- (a) the local jurisdiction requests the sign in writing,
- (b) the local jurisdiction informs the Department in writing that the local roads and intersections on the proposed local Terminal Access route meet all geometric criteria for STAA trucks, and the entire segment including
- (c) the State highway ramp or intersection meets all geometric criteria for STAA trucks.

Don Howe added that there is new website address (<http://www.dot.ca.gov/hq/traffops/trucks/truckmap/local-truck-routes.htm>.) for the STAA listed in the same section.

Chairman Bahadori asked whether or not the Committee members have questions for Don Howe.

Farhad Mansourian stated that he has concern with the proposed language. First, he stated that Caltrans has difficulty with one county on this issue and now the proposed language will be implemented on 440 cities and 58 counties. He added that when he makes a request on behalf of a County today that certain routes meet the STAA requirements, but then after a year or two that subject route may or may not meet the STAA requirements due to federal standards that are changed or if the local road has some improvements. That would be a legal problem. He also questioned the proposed language which states: "all geometric criteria". He asked what those criteria are. He stated that he is not supportive of the language as proposed. He would like to see a joint effort between Caltrans and local agencies for signing STAA routes.

Wayne Henley responded that there is an issue for Caltrans to provide resources for the local facility. Caltrans wants to make sure when STAA routes are signed from the State Highway to local facilities, locals go through the requirements to determine that their facility meets all the requirements for the STAA Truck Routes.

John Fisher asked what geometric criteria would be required for the STAA Truck Route besides the turning radius.

Farhad Mansourian stated that there might be lane width, grade, and vertical clearance. He added that he understands Caltrans concern about the resources, however it should be a joint effort by both state and local agency.

John Fisher stated that there might be a need to identify important criteria versus the less important criteria. He cited that cross-slope is less critical than vertical clearance and turning radius.

Jacob Babico stated that the major primary issue for STAA Trucks is the turning template. If an intersection does not meet the turning template, it would be expensive to upgrade the facility.

Chairman Bahadori enquired on how LA assigned STAA routes. Secondly, most the streets in LA have a very tight turning radius.

John Fisher responded that City of Los Angeles only signs those streets where trucks are prohibited. He does not believe they have any streets signed with STAA Truck Routes.

Farhad Mansourian stated that Caltrans does not want to sign a state facility for STAA Truck Route if after one block the trucker is stuck to go nowhere. He agrees with the concept, however, he does not support the language.

John Fisher suggested changing the wording from “all geometric criteria” to “generally meet critical geometric criteria”.

Farhad Mansourian asked who would decide the critical geometric criteria.

John Fisher stated that Caltrans has to sign the state facility only after the local signs their facility.

Farhad Mansourian stated that the locals could certify that they have reviewed their facility and it does meet the requirements.

Steve Lerwill stated that the local has to identify what they have checked to satisfy the STAA requirement such as clearance, lane width, turning templates and then the state will sign STAA Truck Route from the state facility.

Chairman Bahadori asked for comments from the public, there were none. He continued discussion amongst Committee members.

There was a lengthy discussion among the Committee members.

Farhad Mansourian proposed a **Motion** as follows:

Motion: Moved by Farhad Mansourian, seconded by John Fisher, local jurisdictions and the Department of Transportation (Caltrans) to agree in writing that the local route intersections on the proposed local access road meets the critical criteria of the STAA Truck route.

Chairman Bahadori asked for discussion on the motion.

Wayne Henley stated that the proposed language suggested by Farhad Mansourian will be shared with the Caltrans responsible unit and if they agreed then Caltrans will adopt it. If they do not agree, then Caltrans will work with the Committee members to build a consensus and place the item on the agenda again.

Jacob Babico stated that the proposed language by Farhad has a conflict with the number 2 statement under subheading (b). The beginning of the statement is with a “shall” statement and Farhad’s proposal is an “option” statement.

Farhad Mansourian stated that this whole standard reads as follows:

Signing of egress from a State Terminal Access route to a local Terminal Access route shall be done only if requested in writing by the local jurisdiction if (a), (b) and (c) met. It means "shall" is applicable on all the three requirements listed under a, b and c.

There were no other comments.

Motion Carried 8-0.

Action: Caltrans will discuss the proposal with Truck Servicing Unit and take the appropriate action.

09-7 Frequent Stopping & Backing – Stay Back 100 ft Sign

Chairman Bahadori asked Wayne Henley to discuss the agenda item on Frequent Stopping & Backing – Stay Back 100 ft Sign.

Wayne Henley stated that Caltrans District 3 proposed this sign, because the sign will be used on the back of on snow removal vehicles during snow removal operation. He invited D3 to share their proposal with the Committee.

Caltrans District 3 is requesting the use of CAUTION – FREQUENT STOPPING AND BACKING STAY BACK 100 FEET sign for use on work vehicles such as snow graders to improve road users and workers safety. The snow removal vehicle is so big that if a vehicle parked 40 to 50 back from it, the driver of the snow removal vehicle cannot see the vehicle parked behind it. The snow removal vehicle frequently backs up during the operation and the sign will be helpful to warn motorists to stay back from the vehicle.

Chairman Bahadori asked for public comments.

Harold Garfield stated that Sacramento City uses a similar type of sign, however, the distance is 200 feet back. He suggested considering 200 feet.

There were no other public comments. Chairman Bahadori opened discussion amongst Committee members.

John Fisher asked what the speed of these snow removal vehicles is.

D3 responded that they could travel at 15 mph to a maximum of 20 mph.

John Fisher commented that a 100 ft distance is sufficient to keep 2 seconds of headway between the vehicles. He asked whether this sign would be used on other vehicles.

D3 responded no, it would be used only on snow removal vehicles.

Steve Lerwill asked whether the majority of the collisions are related to the backing up of snow removal vehicles.

D3 responded no, there were 14 collisions and only three were related to backing up.

Steve Lerwill also commented that it is the responsibility of the driver of a vehicle to see if it is safe to back up.

There were no other comments.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, recommended to adopt the proposed policy as shown in the agenda and listed below:

6F.109(CA) CAUTION – FREQUENT STOPPING AND BACKING STAY BACK 100 FEET Sign

Option:

For mobile operations, CAUTION – FREQUENT STOPPING AND BACKING STAY BACK 100 FEET Sign may be mounted on a work vehicle to warn road users and workers of the frequent stopping and backing maneuvers made by the vehicle.

Chairman Bahadori asked for comments from the Committee members on the motion.

Gordon Wong from the audience asked if the motion would consider a variable distance instead of 100 feet.

Chairman Bahadori asked Gordon to introduce himself, because public comments have been closed.

Gordon Wong stated that he works with the Signs, Markings and External Support Branch under Wayne Henley. He further stated that he would recommend using a variable distance because there was a comment earlier that the City of Sacramento uses a 200 ft distance.

Chairman Bahadori commented that his understanding is when Caltrans proposed an item it has been discussed internally and every one agreed with the proposal. He added that the Committee has heard the other comments to use 200 feet.

Wayne Henley commented that the language proposed in the agenda is what Caltrans is asking for in the recommendations.

Farhad Mansourian commented that he wants the record to reflect that Caltrans staff who works to remove snow from the highways are doing an outstanding job. He was in Lake Tahoe during a big storm and he noticed the work done by Caltrans staff on the snow removal was tremendous and they need appreciation.

There were no more comments.

Motion Carried 8-0.

Action: Caltrans will develop the sign specifications and post on the CA MUTCD website.

09-8 Defining Speed Category for Sign Spacing Table 6C-1

Chairman Bahadori asked Wayne Henley to address the agenda item for Sign Spacing Table 6C-1 of the CA MUTCD.

Wayne Henley stated that this is another clarification of the CA MUTCD which currently identifies warning sign spacing in construction based on urban low speed, rural high speed, rural and expressway/freeway. David Royer, Consultant, has suggested adding a speed limit just like the 1996

Traffic Manual would clarify in a table to practitioners. He asked Don Howe if would like to add his comments.

Don Howe stated that the 1996 Traffic Manual used to have reference with speed limits with a urban and rural category. He added that the proposed speed limit for expressway/freeway listed as 50 mph and above might be a misprint because freeways are posted at a minimum 55 mph speed limit. He stated that he has to check this with Johnny Bhullar who has proposed this item.

Chairman Bahadori asked Committee members if they had questions for Don Howe.

Jacob Babico suggested eliminating the category of urban and rural and just leave the speed limit reference with low and high speeds. It would be more understandable.

John Fisher suggested eliminating low and high speed from the table instead of adding speed limit. He further asked about the difference between Table 5-3 of the 1996 Traffic Manual and Table 6C-1 of CA MUTCD why it has different numbers.

Wayne Henley suggested eliminating the urban/rural category as suggested by Jacob and keeping the table with speed limits.

Chairman Bahadori asked for public comments.

David Royer, Consultant, responded to John Fisher's question in regards to the different values in both tables. He stated that Table 5-3 was based on the 1993 Federal MUTCD and Table 6C-1 is based on the 2000 Federal MUTCD.

Farhad Mansourian asked David Royer what the speed is based on and if the Committee identifies the table according to speed, then does this speed need to be clarified such as posted speed, prevailing speed or what?

David Royer responded that the table is based on the posted speed limit.

Harold Garfield commented that urban and rural category is defined in Chapter 9 of the Traffic Manual under Signals. It says 40 mph or less urban and 45 mph or more rural.

Jeff Knowles stated that he would suggest using the posted speed or speed established by the local agency.

Gordon Wong, Caltrans, stated that CA MUTCD Part 6 and other parts of the CA MUTCD define signing heights and recovery area for urban and rural areas. He stated that some cites have posted speed limit 45 mph or more in urban areas, and based on this, it would be a rural area and sign heights and recovery area will be different for that segment of the roadway. He suggested that the table is from the Federal MUTCD and should not be changed.

Matt Schmitz, FHWA, stated that Table 6C-1 is an incomplete table and it is purposely design that way so the states can modify as it is appropriate. He suggested eliminating the rural/urban distinction and keeping the reference with speed limit. He added that it is a suggested table and states could modify. He further added that Table 2B-1 (regulatory signs) is classified with classifications of the roadway, the Committee might consider that option.

There were no other comments. Chairman Bahadori opened discussion to Committee members. He stated that there was a suggestion to eliminate rural/urban distinction, the table should use posted speed limit or speed established by the engineer or local agency.

Jacob Babico suggested deleting road type and using posted speed limit and deleting rural/urban distinction. He stated that is his Motion.

Farhad Mansourian seconded the Motion with amendments. He suggested adding “minimum” in the table heading so that it reads as “Suggested Minimum Advance Warning Sign Spacing”, and second, clarifying posted speed limit by saying “posted speed or speed determined by the local agency”.

Jacob agreed with the amendments.

John Fisher stated that in order to define what speed is used, it could be defined in the table by replacing the “road type” to “speed limit”. Sometimes there is no posted speed limit and it could be a prima facie.

Both Jacob Babico and Farhad Mansourian agreed with the amendment proposed by John Fisher.

Motion: Moved by Jacob Babico, seconded by Farhad Mansourian, recommended that Caltrans adopt the proposed amendment to Table 6C-1 by deleting urban and rural from the first column and replacing “road type” with “speed limit” and add “minimum” to the table heading.

Motion Carried 8-0.

Action: Caltrans will modify the Table as recommended and post on the CA MUTCD website.

5 Request for Experimentation

09-9 Request to Experiment with Steady Red Stop Line Light

Chairman Bahadori informed the Committee members and audience that the City of Los Angeles has withdrawn the item because the project engineer was not able to attend the meeting due to another assignment. The City has requested to carry the item at the next CTCDC meeting.

9-10 Speed limit Sign (R2-1) of CA MUTCD

Chairman Bahadori informed the Committee that the speed limit issue would be discussed in a special meeting on February 24, 2009 from 1 p.m. to 5 p.m. in the Auditorium of Water Resources Building at 1416 9th Street, Sacramento, CA 95814.

09-11 Slogan Broken Heart

Chairman Bahadori asked Wayne Henley to address the agenda item on the Slogan Broken Heart.

Wayne Henley stated that a month and a half ago he received a phone call from Leonard Holmquist regarding the symbol “broken heart” logo to place on the highway to remind motorist about the safety. He explained to Leonard Holmquist that Caltrans follows the advice of CTCDC in developing new traffic control devices. He further added that he informed Leonard Holmquist that your proposal would be placed on the CTCDC agenda for discussion purposes. Wayne asked Leonard Holmquist to share his proposal with Committee members.

Leonard Holmquist introduced himself to the Committee and stated he lives in a small city called Gustine in the County of Merced. He handed out a picture to the Committee members and audience which shows a “broken heart” logo. He proposed to place “broken heart” logo on the roadway to remind motorists to drive safely, because someone’s heart has broken there.

Leonard Holmquist gave a very emotional presentation about the incident that happened in their community and the reasons to place the “broken heart” logo. He stated that he was driving through the State of Oregon and saw a “broken heart” logo on the pavement. He shared the idea with the local officials of the City of Gustine and they liked the idea that it will remind people to drive safely. However, the subject intersection was under Caltrans jurisdiction. He contacted Caltrans Stockton Office to share his proposal. The representative from Caltrans District 10 came to Gustine to discuss this proposal and told Leonard Holmquist since this is not approved symbol, he should contact the CTCDC. Leonard Holmquist told the Committee members this is the reason he is there to seek the Committee’s approval.

Leonard Holmquist also shared with the Committee about the annual parade they conduct in their town which passes through the same intersection where the incident was happened.

Leonard Holmquist further added that three years ago a little eight-year-old girl was killed while crossing the highway. This could have been avoided if the driver of the vehicle had been careful. He stated that his intent is to remind people about the safety while driving and remind them that some family got a “broken heart” by someone not driving safely. He also shared this proposal with the local community residents. He added that everyone who attended the meeting agreed with the concept except one person raised the question and asked what would that person who was involved in the incident think about this when he sees the logo on the pavement. Leonard stated that this wouldn’t have happened if he had driven safely.

Leonard Holmquist stated that the proposed logo is 7 feet and the city will maintain and refresh it, if needed. He requested the Committee to support his proposal.

Chairman Bahadori asked if any one else from the City of Gustine would like to make a presentation.

Rich Calderon, Police Chief, City of Gustine stated that their Department supports the idea and the police will help during the installation. If any traffic control is needed or any other safety related matter this Committee asks to do, the Gustine Police will take care of it.

The Mayor of City of Gustine also supported the idea. He stated that when Leonard Holmquist discussed his idea, he thought it is great idea to remind people to drive safely. The subject intersection has a lot of movement, and the proposal would promote safe driving. He asked the Committee to consider this proposal.

Chairman Bahadori appreciated Leonard Holmquist’s emotional presentation and stated that this is a great idea to think outside the box and implement other traffic control device which might be proven beneficial compared to traditional traffic control devices. He added that the Federal MUTCD and CA MUTCD does allow some color architecture on the pavement. He asked Matt Schmitz, FHWA, if he could comment on this proposal.

Matt Schmitz stated that the architectural treatments if given an audible sound such as rumble strips, they are not considered traffic control device. The color pavement except yellow and white are considered traffic control device. The proposed “broken heart” logo, the MUTCD team will consider as a traffic control device and they will ask for experimentation. The device is intended to communicate with drivers, therefore, it will be considered a traffic control device.

Chairman Bahadori asked comments from the Committee members.

John Fisher stated that Leonard Holmquist has given very emotional testimony. The role of this Committee is to determine standard traffic control devices for all jurisdictions for the State of California. The City of Gustine wants a unique painted decorative pavement design for a particular intersection. If you ask this Committee to approve the device, it is not in the purview of this committee. First, you have to follow the federal process and receive approval from them and then from this Committee. This is a long process and if you get approval for the experimentation, the City has to collect before and after data. The broken heart design could be interpreted to refer to an unfulfilled romantic outcome, rather than a traffic fatality. He suggested finding a way for the City of Gustine to use the logo without having to seek experimental approval. He suggested that if the City of Gustine considers placing this logo in the painted crosswalk, then it would not be considered a traffic control device, because two parallel lines represent a crosswalk. He gave an example in Downtown Los Angeles where the City installed the City Seal on the pavement within a crosswalk near City Hall. He stated that the best avenue is to bypass all other processes and place the logo within the crosswalk.

Ed von Borstel also suggested using creative ways, so that the City does not go through a lengthy process, and as John Fisher suggested, consider placing the logo in the crosswalk.

Chairman Bahadori asked for comments from the public.

Jeff Knowles, alternate CTCDC member, stated that last year he attended the State Highway Safety Improvement Program Workshop and there was a discussion to think outside the box to provide public safety on the roadways. He commented that there is a need to develop some sort of international symbol, which reminds motorists about traffic safety. He stated that if the proposed symbol does not fit, think of something else, there is a need to remind drivers of their safety and public safety.

Chairman Bahadori stated that he has attended the same State Highway Safety Improvement Program Workshop. He added that when they talk about speeding issues, the solution is more signs and more enforcement. Nobody is talking to think outside the box.

Farhad Mansourian stated that he would like to elaborate on what John Fisher has suggested during his earlier comments. He added that the logo proposed by Leonard Holmquist, Police Chief and Mayor of Gustine, if the proposal is to consider adoption Statewide, then the City of Gustine has to follow a lengthy process. It will require before and after data. He does not believe that the study will find that there were 15 collisions before and that with the logo the collisions were reduced tremendously. When you go through the experimental process, it is data driven process, not emotional. He suggested finding a way as John Fisher suggested, using some other creative way to do what the City wants to do. He stated that Caltrans has asked the Committee's opinion on this proposal and he and other Committee members suggested that Caltrans and the City work together to find a way to use the logo as suggested by John Fisher.

John Fisher commented on Jeff Knowles comments and stated that there is more of an educational need to improve safety. He added that he has published articles on traffic control devices and post them on their Departments' website. He stated that 50 years ago, agencies used to put stencils where pedestrian have been killed to remind peoples to drive carefully. He further stated that he has seen crosses on the freeway. He commented that education works better on traffic safety than symbolic. He stated that the City of Los Angeles uses signs such as "Watch The Road" to educate drivers to be more careful while driving. He also mentioned the City conducts official meetings with neighborhood communities to educate them on traffic safety and allow them to put slogans or safety messages in the private properties to remind motorists about the safety. He stated that he supports the concept that there needs to be more

safety education, but that it needs to be accomplished as part of a comprehensive plan, not just by unique sign or pavement marking symbols.

Chairman Bahadori suggested that the City of Gustine and Caltrans work together and find a way to accommodate the need of the City as suggested by John Fisher and Farhad Mansourian.

There was no further discussion on the item.

09-12 Variable Speed Limit Signs

Chairman Bahadori asked Wayne Henley to address the agenda item on Variable Speed Limit Signs (VSLS).

Wayne Henley stated that Caltrans District 4 is proposing a capacity management system project on I-80 corridor from Carquinez Bridge to Bay Bridge. This will also involve a number of projects on the surface streets, including ramp metering. The purpose is to have a speed limit which could improve the capacity and improve safety of the corridor. He invited Sean Nozzari, Deputy Director Operations, District 4, to share this concept with the Committee.

Sean Nozzari introduced Habib Shamskhov from DKS and Cyrus Minoofar from Alameda County Congestion Management Agency (ACMA).

Sean Nozzari stated the primary purpose of the I-80 Integrated Corridor Management Project is to enhance the current Transportation Management System along the I-80 corridor to improve the safety and mobility for all users. The project will use the State-of-the Practice ITS technologies to enhance the effectiveness of the existing transportation network in both freeway and parallel arterial in both Alameda and Contra Costa Counties. He stated that the proposed project will include the freeway management system, corridor-wide ramp metering, speed harmonization through variable speed limit signs, transit management system, traveler information system, commercial vehicle operation traffic surveillance & control system and incident management system.

Sean Nozzari gave some highlights of the project on why it has been considered. He stated that this portion of the I-80 corridor from the Bay Bridge to the Carquinez Bridge is the worst congested corridor in the entire Bay Area. He stated that currently, the demand on the freeway exceeds the roadway capacity causing unreliable travel times, erratic operating speeds, breakdowns, as well as diversion of the local arterial. The congestion on the corridor contribute to an increase in incident rates, including rear-end collisions on both the freeway and local arterial.

Sean Nozzari further stated that the project includes integration with East Bay Smart Corridor Program, a joint Alameda and Contra Costa County Intelligent Transportation Program and the Caltrans Transportation Management System. He stated that the I-80 corridor project consists of multiple systems and strategies, working collectively, to address the challenges of the imbalance flow of traffic in the corridor.

Sean Nozzari stated that all the stakeholders agree on the project proposal and there is full commitment by Caltrans, the cities, counties, regional agencies, CHP, and transit agencies. He stated that there would be benefits from the project such as improved travel time, balanced and stable traffic flow, speed harmonization, better utilization of the facility, reduced incident reduced bottleneck and reduced pollution. He stated that other benefits include less fuel consumption, driver frustration, and more travelers shifting to transit alternatives. The project will reduce congestion, increase safety, and improve

the operation of the freeway and will benefit the entire network in the area. He further added that the other benefits would include approximately 15% safety improvement, 50% reduction in collisions, 10% to 25% increase in speed during peak hours.

Sean Nozzari further stated that there is no right of way available for expansion, high traffic demands, that physical and environmental constraints prevent traditional roadway improvements. He also stated that there are existing various speed limits posted in the proposed segment. He further added that even though the Department has not developed the method for determination of VSL, it is allowed by the California Vehicle Code. He also stated that they do not have answer at this time how to determine appropriate VSL, however, this will be addressed in the near future.

Sean Nozzari also talked about the CVC Section 22355. It is clear that the CVC authorizes the DOT to implement VSLs, currently, there is very limited application of the VSLs in CA. The VSLs are used when the roadway is slippery or in icy conditions. The speed limits that are indicated by these signs are enforceable. There is no legislative definition of the basis on which the different speed limits may be determined. As long as the manner in which they are used is consistent with the "engineering and traffic survey", then the Department is free to select the speed limit it deems appropriate at any time of day or night. He further added that there is a lot of work to do before this project could be implemented. There will be an involvement of the CHP and other stakeholders.

Sean Nozzari used a PowerPoint presentation to layout the description of the proposal which is posted with the minutes on the following website, called "PowerPoint Presentation on Variable Speed Limit Signs":

<http://www.dot.ca.gov/hq/traffops/signtech/newtech/minutes.htm>

He closed his presentation and asked for comments or input from the Committee members.

Chairman Bahadori asked the Committee members if they have comments or questions on the proposal.

John Fisher inquired whether the purpose of the proposed speed harmonization is to advise faster traffic of slower traffic ahead, as a collision prevention measure, or if the purpose is to manage speeds, so as to maximize vehicle throughout.

Sean Nozzari responded it is latter. The plan is to operate the corridor on a certain speed to reduce collisions due to a differential of speeds and that will increase the capacity through the corridor.

John Fisher asked that to maintain a certain speed limit, there is a requirement for the effective metering system and connecting roads to corridor, so that a flow is maintained on the main line.

Sean Nozzari responded that there is still a lot of work to do to integrate the metering system with the main line system. There is lot of unfinished work to do to accomplish this project.

Chairman Bahadori commented that he is looking at the role of the Committee in this project. He stated that as for as the use of VSLs, CVC 22355 says:

Whenever the Department of Transportation determines upon the basis of an engineering and traffic survey that the safe and orderly movement of traffic upon any state highway which is a freeway will be facilitated by the establishment of variable speed limits, the department may erect, regulate, and control signs upon the state highway which is a freeway, or any portion thereof, which signs shall be so designed as to permit display of different speed limits at various times of the day or night.

He added that the CVC is allowed only to use VSLs when justified by using an E&TS. He further added that the guidelines for the E&TS are very clearly defined when and how to do it. The speed limit posted without the E&TS can only be enforced by pacing, and radar system can not be used. He also talked about a similar project implemented in Europe and it has increased the capacity by 25%. He stated that there are existing signs available in the CA MUTCD which could be used in this project, if the existing

signs are not adequate, then you need to bring new signs to the Committee for recommendations. He commented that the basic speed on the freeway is 65 mph, if you post the speed as 50 mph, how would it be justified.

Steve Lerwill questioned Sean Nozzari about the statement included in the agenda packet, which states; the speed developed by the CVC 22355 is enforceable. Steve Lerwill commented that CVC 22355 is an administrative Section and the speed limit posted without the proper E&TS is not enforceable by radar. He further added that CHP uses CVC Sections 22349 and 22350 for the enforcement of speed. The judges will not enforce the citations if they are based on a speed limit posted without using an E&TS.

Sean Nozzari stated that the Department would develop the process on how to justify the speed and not create a speed trap.

Steve Lerwill stated that CHP uses Section 22349 and 22350 of the CVC to cite a motorist of unsafe speed and the maximum speed limit. He further added that they have to go through a lot of data to come up with right way to display the appropriate speed.

Sean Nozzari responded that at this point, there are number of questions which can not be answered because there is a lot of unfinished work.

John Fisher commented that the CVC has requirements to conduct an engineering and traffic survey to justify any speed limit, and noted that such a survey could not be practically applied to setting variable speed limits. The E&TS requires doing the study during off-peak hours in free flow conditions. He added that legislation is required because without the E&TS, the speed limit is not enforceable, because of the speed trap law. In Europe, when they used VSLs, they do automatic speed enforcement. They do not use law enforcement agencies to enforce the VSLs. He stated that the issue brought up by the CHP needs to be addressed. He further added that maybe warning signs are more appropriate to remind motorists there is congestion ahead, so go 35 mph, rather than trying to figure out how to get legislation to provide dynamic speed limit.

Sean Nozzari responded that it all depends on driver behavior. There may be signs installed, and there is great enforcement set up, but still it depends up on the driver's behavior. With the current signing system, the driver may or may not see the sign. However, the proposed series of signs would influence driver's behavior.

Steve Lerwill stated that if CHP cites motorists according to CVC 22349 or 22350 in a VASL corridor, a judge is going to ask why you used CVC 22349 or 22350. The Officer testifying in court would say that Caltrans established the speed by using harmonization speed limit. The judge would ask for the speed survey and the officer would not be able to produce it, because speed changes in every 5-10-15 minutes intervals.

Sean Nozzari commented that the Committee members have raised excellent questions, and the project is at the very beginning stages. When they work on details to determine the Variable Speed Limit, then they would have answered all the questions. We might use engineering judgement but we are not there yet.

Chairman Bahadori commented that technically the E&TS is possible to use an advance technology, however, it would not be a legal. The E&TS is conducted by using a 100-vehicle sample, on the freeway this sample could be achieved in 30 seconds. How the requirements of E&TS would be fulfilled which requires the signature of a registered engineer, and it is filed in court every 5, 7 or 10 years. Furthermore, the E&TS for the freeway is not common, it is conducted only when you increase or decrease the speed limit on a permanent basis.

Jacob Babico stated that it was an excellent presentation with good information. He asked how the capacity by using VSLs would be increased.

Sean Nozzari responded that the purpose is not to increase the capacity, the purpose is to achieve the lost capacity created by the bottleneck and congestion. With the proposed project, the congestion, bottleneck would be minimized and the desired capacity of the corridor would be achieved. There is ample congestion due to collisions caused by a differential of speeds, and providing harmonization of speeds could reduce collisions.

Farhad Mansourian applauded Caltrans, AMCA, and DKS for the proposal. He commented that if there is a need to get legislation, Caltrans would work on that legislation. He further stated that he would like to see an animation of the proposed project. He added that if this concept is successful, it could be implemented in major cities.

Chairman Bahadori suggested to Sean Nozzari to check with Caltrans District 11 because they have video on a similar concept.

Habib Shamashou, DKS, answered some questions raised by the Committee members. He responded that there will be animation on the project and would be shared with the Committee during the future meeting. The project is not increasing the capacity, the purpose is to restore the lost capacity due to congestion and bottleneck. There will be coordination with CHP on the enforcement issue. He stated that they believe documentation of the data will show it is enforceable. Caltrans might approach the legislatures to fix legal issues. He also talked about the capacity lost due to the collisions and congestion and reducing the collisions and monitoring the congestion would restore that capacity.

Chairman Bahadori asked for public comments.

John Keller, CHP, commented on the statement included in the agenda packet for this item as follows:

Conclusion and recommendation

There is no legal impediment to use of VSL in California. No change to the CVC is required to implement VSL in California. The Department of Transportation does not have a suitable procedure in place for the conduct of an "engineering and traffic survey" that is appropriate for implementation of VSL. Once in place, the VSL may be varied from time to time without preparation of a new "engineering and traffic survey" and the displayed speed limit will be enforceable.

John Keller stated that speed limit established by using CVC Section 22355 would not be enforceable and this section also talks about the use of E&TS when developing VSL. Various speed limits have been in the CVC for the last half-century, so it is unlikely that the legislature was thinking of the proposed application when the statute was enacted. The CHP often uses CVC 22349 and 22350 for speed violations, but neither of these would be appropriate for variable speed limits. It appears that the variable speed limits established without the E&TS would not be enforceable by using radar. Only pacing which is not practical can enforce it. He also talked about various publications including the CA MUTCD, which says: "the speed limit posted below to the 85% percentile speed causes more collisions". He further stated that automated speed enforcement is not authorized in California and there is a need for legal assessment of variable speed limit enforcement.

Chad Dornsife stated that there are some fundamental flaws with the proposal. Basically, the corridor problem would be distributed on the surface streets and there would be gridlock on the local network. All interchange will be stacked up on the local streets. He stated that the shock waves, disturbance in flow,

the curves, these types of things are not going away. Chad suggested to using a lane management system in which the driver can use by paying. He stated that system would be managed from the one end to the other end. This is a much smarter way to do it, and it would not create any shockwaves or disturbance. He stated that installing a series of signs is not going to work.

Jeff Knowles suggested using other models to improve the corridor capacity. He gave one example in the City of Pleasanton. He stated that there was a speeding problem at one particular intersection. The City set up signals operation at a certain speed limit and posted signs indicating that the signal operation is set up for a certain speed limit. When motorists go faster than the posted speed limit, they will get a red signal. He stated that in a short amount of time, people got adapted to the system and started driving at the posted speed limit. He also talked about how someone could relate this type of system on the freeway. He advocated experimenting with the hot lanes on I-80 and the 680 corridor. He added that hot lanes are a self-regulated system. He suggested using the shoulder as a hot lane during certain periods, and these types of experiments have been done in different parts of the state. A hot lane could be set up for credit cards so it is a self-regulated system.

Dick Boyed, Browns Valley, CA, stated that the three fundamental traffic variables: velocity, density and flow are described in Haberman's book. Haberman quotes the other three authors, who in turn quote flow theory and other sources from Industrial Engineering. He stated the three variables of density, speed and flow are related by the fundamental equation of traffic. In his opinion, the density is the definition of capacity. Drivers should have enough spacing so the interaction does not increase workload. Maximum speed is set by sight stopping distance, not the calculation from a Civil Engineering book, but by the calculation made in an educated driver's head.

Dick Boyed further stated that if a driver was never taught how to make that speed decision, what good do a sign do? Other than offering a punishment which does not change behavior? He talked about the headway distance, he stated that the early following rule was one car length space for each ten miles per hour of speed. This was good up to about 30 MPH. Work out the time difference with the rough estimates that 60 MPH (88 feet per second) is roughly 90 feet per second. A car is roughly 15 feet long. The modern day rule is two seconds following distance, regardless of speed. This is a misleading and, in his opinion, a dangerous guide. Two seconds is good between 30 MPH and 60 MPH for 85 % of drivers. Above 60 MPH, the safe following time increases. If drivers are educated on scan and following distance, or workload reduced or workload shifted to the car, following time can be reduced. By workload, his point was scan pattern and decision process. The decision process leads to controlling direction and controlling speed. Two seconds spacing is about 1,800 vehicles per lane per hour at most and less if you consider the length of the car. He further added that there are everyday examples of drivers adjusting to higher densities for short distances. Flows of 3,000 vehicles per lane per hour for five minute periods have been observed consistently at some sites. Followed by twenty minutes of 1,500 cars per lane per hour. Seem to be reacting to upstream traffic lights. He commented that Jeff Knowles commented earlier that people are willing to go slow to travel faster meaning the turtle finishes the race while the hare is getting a second wind.

Chairman Bahadori commented and advised the project proponent that you have heard the comments and concerns of the Committee members. Also, good comments from the public have been heard. He suggested considering their suggestion and comments. He talked about the CVC Sections which deal with speed limits. CHP raised good comments. In using different signs that are not in the CA MUTCD, they need to be brought back to the Committee for consideration. He again suggested seeing the District 11 video to get perspective about the proposal.

Sean Nozzari thanked the Committee and public for providing valuable feedback on the proposal.

7 Information Items

06-5 Clear the Way signage (Drive Damaged Vehicle to the Shoulder)

Chairman Bahadori asked Danielle Stanislaus, Metropolitan Transportation Commission (MTC), to provide an update on the ongoing experimentation with Clear The Way signage.

Danielle Stanislaus MTC, stated that in a partnership with the California Highway Patrol (CHP) Golden Gate Division and Caltrans District 4, they are conducting a signage demonstration project along the I-880 corridor to increase public awareness of the "Clear The Way" law. She stated that she is here to provide an update to the ongoing experiment. She stated that in 2007, CTCDC authorized the request to conduct experimentation with the "No Injuries Drive Safely to Shoulder". She stated that the I-880 corridor is the second most congested segment in the Bay Area. She added that 32% delay of the total daily delay is caused by the collisions. She stated that the "Clear The Way" signs will be deployed in 15 locations along the 20 mile corridor. The location of the study area is from 7th Street/West Grand in the City of Oakland to Industrial Parkway in the City of Hayward.

She also talked about the law which was enacted in 1999 to amend CVC Sections 20002 and 21113 of the CVC. This amendment allowed motorists to be involved in a traffic collision resulting in minor property damage to move their vehicles off the main lanes of the highway to a safe location in the immediate vicinity of the collision. Prior to this law, the motorists involved in traffic collisions were required by law to "immediately stop" at the scene of the incident to exchange their license and vehicle registration information. Five years following the enactment of the revised law, there was very little or no knowledge in the public about the new law. The purpose of the signs is to educate the public about the new law.

Danielle Stanislaus also provided handouts in regards to a "form" developed to do the motorist survey to evaluate the potential impact of the signs and effectiveness of the overall campaigns. She also shared with the Committee the sources they are using for the public information campaign. She stated that they are using a press event, information brochures & motorist surveys, radio spots, a website/landing page, freeway CMS signs, a 511 program including the stationary signs "Clear The Way". She added that the study will be conducted through the end of this year, then a final report will be submitted to the CTCDC with recommendations based on the result of the study. The website address for the Clear The Way sign is as follows:

<http://511.org/promo/cleartheway/index.asp>

The link to the **survey** is on the following website:

<http://www.fsp-bayarea.org/>

The handout provided by Danielle Stanislaus is posted with the minutes on the following website, called "interim Report on Clear the Way Sign".

<http://www.dot.ca.gov/hq/traffops/signtech/newtech/minutes.htm>

John Keller, CHP, stated that their office was partners in the process to get approval from the CTCDC for the experimentation. He stated that this is a big public education campaign about the law and a major incident management program.

Next Meeting:

There will be a special CTCDC meeting to discuss speed limit and it is scheduled on February 24, 2009 in Sacramento. The regular CTCDC meeting is scheduled for May 14, 2009 and it will be held in Southern California. For detail information, visit at the following website:

<http://www.dot.ca.gov/hq/traffops/signtech/newtech/index.htm>

Adjournment: The meeting was adjourned at 3:45 p.m.